Avionics Applications on a Time-Predictable Chip-Multiprocessor - DTU Orbit (09/11/2017)

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Avionics applications need to be certified for the highest criticality standard. This certification includes schedulability analysis and worst-case execution time (WCET) analysis. WCET analysis is only possible when the software is written to be WCET analyzable and when the platform is time-predictable. In this paper we present prototype avionics applications that have been ported to the time-predictable T-CREST platform. The applications are WCET analyzable, and T-CREST is supported by the aiT WCET analyzer. This combination allows us to provide WCET bounds of avionic tasks, even when executing on a multicore processor.

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Authors: Rocha, A. (Ekstern), Silva, C. (Ekstern), Sørensen, R. B. (Intern), Sparsø, J. (Intern), Schoeberl, M. (Intern)
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